

**Declaration for Patent Application and Power of Attorney**

As a below named inventor, I hereby declare that my residence, post office address, and citizenship are as stated below next to my name, and that I believe I am the original, first and sole inventor (if only one is listed) or an original, first and joint inventor (if plural names are listed) of the subject matter which is claimed and for which a patent is sought on the invention described in the application No. **10/646,331** entitled **Improved Methods for Ranking Nodes in Large Directed Graphs**.

First or Sole Inventor:	Full name:	<b>SEPANDAR D. KAMVAR</b>	Citizenship:	<b>US</b>
	Residence:	<b>1805 Park Blvd., Palo Alto, CA 94306</b>		
	Postal Address:	<b>Same as above</b>		
Second Joint Inventor (if any):	Full name:	<b>TAHER H. HAVELIWALA</b>	Citizenship:	<b>US</b>
	Residence:	<b>1600 Villa St., Apt 306, Mountain View, CA 94041</b>		
	Postal Address:	<b>Same as above</b>		
Third Joint Inventor (if any):	Full name:	<b>GLEN JEH</b>	Citizenship:	<b>US</b>
	Residence:	<b>48 Rudden Avenue, San Francisco, CA 94112</b>		
	Postal Address:	<b>Same as above</b>		
Fourth Joint Inventor (if any):	Full name:	<b>GENE GOLUB</b>	Citizenship:	<b>US</b>
	Residence:	<b>576 Constanzo St., Stanford, CA 94305</b>		
	Postal Address:	<b>Same as above</b>		

I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a). I claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed.

**PRIOR FOREIGN APPLICATION(S)**

Country	Application Number	Date of Filing	Priority Claimed Under 35 U.S.C. §119
<b>NONE</b>			<input type="checkbox"/> Yes <input type="checkbox"/> No

I claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application.

**PRIOR U. S. APPLICATION(S)**

Application No.	Filing Date	Status
<b>60/458,921</b>	<b>3/28/03</b>	<input checked="" type="checkbox"/> Provisional <input type="checkbox"/> Patented <input type="checkbox"/> Pending <input type="checkbox"/> Regular

I hereby appoint Thomas J. McFarlane, Reg. No. 39,299, Marek Alboszta, Reg. No. 39,894, Katharina Wang Schuster, Reg. No. 50,000, Ron Jacobs, Reg. No. 50,142, Bertram Rowland, Reg. No. 20,015, Tianhua Gu, Reg. No. 52,480 as my agents with full power of substitution to prosecute this application and transact all business in the United States Patent and Trademark Office connected therewith. Direct all correspondence to:

**Marek Alboszta**  
2345 Yale Street, 2nd Floor  
Palo Alto, CA 94306  
tel: (650) 424-0100  
fax: (650) 424-0141

The attorney docket number for this case is: **S03-087/US**

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under Title 18, §1001 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

INVENTOR SIGNATURE(S)

**SEPANDAR D. KAMVAR**

**5/12/04**  
Date

**TAHER H. HAVELIWALA**

Date

**GLEN JEH**

Date

**GENE GOLUB**

Date



Attorney Docket: S03-087/US

**Declaration for Patent Application and Power of Attorney**

As a below named inventor, I hereby declare that my residence, post office address, and citizenship are as stated below next to my name, and that I believe I am the original, first and sole inventor (if only one is listed) or an original, first and joint inventor (if plural names are listed) of the subject matter which is claimed and for which a patent is sought on the invention described in the application No. 10/646,331 entitled **Improved Methods for Ranking Nodes in Large Directed Graphs**.

First or Sole Inventor:	Full name:	SEPANDAR D. KAMVAR	Citizenship:	US
	Residence:	1805 Park Blvd., Palo Alto, CA 94306		
	Postal Address:	Same as above		
Second Joint Inventor (if any):	Full name:	TAHER H. HAVELIWALA	Citizenship:	US
	Residence:	1600 Villa St., Apt 306, Mountain View, CA 94041		
	Postal Address:	Same as above		
Third Joint Inventor (if any):	Full name:	GLEN JEH	Citizenship:	US
	Residence:	48 Rudden Avenue, San Francisco, CA 94112		
	Postal Address:	Same as above		
Fourth Joint Inventor (if any):	Full name:	GENE GOLUB	Citizenship:	US
	Residence:	576 Constanzo St., Stanford, CA 94305		
	Postal Address:	Same as above		

I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a). I claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed.

**PRIOR FOREIGN APPLICATION(S)**

Country	Application Number	Date of Filing	Priority Claimed Under 35 U.S.C. §119
NONE			<input type="checkbox"/> Yes <input type="checkbox"/> No

I claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application.

**PRIOR U. S. APPLICATION(S)**

Application No.	Filing Date	Status
60/458,921	3/28/03	<input checked="" type="checkbox"/> Provisional <input type="checkbox"/> Patented <input type="checkbox"/> Pending <input type="checkbox"/> Regular

I hereby appoint Thomas J. McFarlane, Reg. No. 39,299, Marek Alboszta, Reg. No. 39,894, Katharina Wang Schuster, Reg. No. 50,000, Ron Jacobs, Reg. No. 50,142, Bertram Rowland, Reg. No. 20,015, Tianhua Gu, Reg. No. 52,480 as my agents with full power of substitution to prosecute this application and transact all business in the United States Patent and Trademark Office connected therewith. Direct all correspondence to:

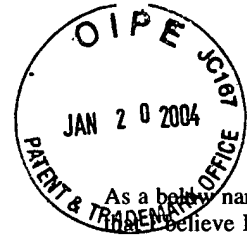
**Marek Alboszta**  
2345 Yale Street, 2nd Floor  
Palo Alto, CA 94306  
tel: (650) 424-0100  
fax: (650) 424-0141

The attorney docket number for this case is: **S03-087/US**

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under Title 18, §1001 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

**INVENTOR SIGNATURE(S)**

SEPANDAR D. KAMVAR	Date	<u>Taher H. Haveliwala</u> TAHER H. HAVELIWALA	<u>1/16/2004</u> Date
GLEN JEH	Date	GENE GOLUB	Date

**Declaration for Patent Application and Power of Attorney**

As a below named inventor, I hereby declare that my residence, post office address, and citizenship are as stated below next to my name, and I believe I am the original, first and sole inventor (if only one is listed) or an original, first and joint inventor (if plural names are listed) of the subject matter which is claimed and for which a patent is sought on the invention described in the application No. 10/646,331 entitled **Improved Methods for Ranking Nodes in Large Directed Graphs**.

First or Sole Inventor:	Full name:	SEPANDAR D. KAMVAR	Citizenship:	US
	Residence:	1805 Park Blvd., Palo Alto, CA 94306		
	Postal Address:	Same as above		
Second Joint Inventor (if any):	Full name:	TAHER H. HAVELIWALA	Citizenship:	US
	Residence:	1600 Villa St., Apt 306, Mountain View, CA 94041		
	Postal Address:	Same as above		
Third Joint Inventor (if any):	Full name:	GLEN JEH	Citizenship:	US
	Residence:	48 Rudden Avenue, San Francisco, CA 94112		
	Postal Address:	Same as above		
Fourth Joint Inventor (if any):	Full name:	GENE GOLUB	Citizenship:	US
	Residence:	576 Constanzo St., Stanford, CA 94305		
	Postal Address:	Same as above		

I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a). I claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed.

**PRIOR FOREIGN APPLICATION(S)**

Country	Application Number	Date of Filing	Priority Claimed Under 35 U.S.C. §119
NONE			<input type="checkbox"/> Yes <input type="checkbox"/> No

I claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application.

**PRIOR U. S. APPLICATION(S)**

Application No.	Filing Date	Status
60/458,921	3/28/03	<input checked="" type="checkbox"/> Provisional <input type="checkbox"/> Patented <input type="checkbox"/> Pending <input type="checkbox"/> Regular


I hereby appoint Thomas J. McFarlane, Reg. No. 39,299, Marek Alboszta, Reg. No. 39,894, Katharina Wang Schuster, Reg. No. 50,000, Ron Jacobs, Reg. No. 50,142, Bertram Rowland, Reg. No. 20,015, Tianhua Gu, Reg. No. 52,480 as my agents with full power of substitution to prosecute this application and transact all business in the United States Patent and Trademark Office connected therewith. Direct all correspondence to:

**Marek Alboszta**  
2345 Yale Street, 2nd Floor  
Palo Alto, CA 94306  
tel: (650) 424-0100  
fax: (650) 424-0141

The attorney docket number for this case is: **S03-087/US**

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under Title 18, §1001 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

**INVENTOR SIGNATURE(S)**

SEPANDAR D. KAMVAR	Date	TAHER H. HAVELIWALA	Date
	Dec. 15, 2003		
GLEN JEH	Date	GENE GOLUB	Date



## Declaration for Patent Application and Power of Attorney

As a below named inventor, I hereby declare that my residence, post office address, and citizenship are as stated below next to my name, and that I believe I am the original, first and sole inventor (if only one is listed) or an original, first and joint inventor (if plural names are listed) of the subject matter which is claimed and for which a patent is sought on the invention described in the application No. 10/646,331 entitled **Improved Methods for Ranking Nodes in Large Directed Graphs**.

First or Sole Inventor:	Full name:	SEPANDAR D. KAMVAR	Citizenship:	US
	Residence:	1805 Park Blvd., Palo Alto, CA 94306		
	Postal Address:	Same as above		
Second Joint Inventor (if any):	Full name:	TAHER H. HAVELIWALA	Citizenship:	US
	Residence:	1600 Villa St., Apt 306, Mountain View, CA 94041		
	Postal Address:	Same as above		
Third Joint Inventor (if any):	Full name:	GLEN JEH	Citizenship:	US
	Residence:	48 Rudden Avenue, San Francisco, CA 94112		
	Postal Address:	Same as above		
Fourth Joint Inventor (if any):	Full name:	GENE GOLUB	Citizenship:	US
	Residence:	576 Constanzo St., Stanford, CA 94305		
	Postal Address:	Same as above		

I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a). I claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed.

### PRIOR FOREIGN APPLICATION(S)

Country	Application Number	Date of Filing	Priority Claimed Under 35 U.S.C. §119
NONE			<input type="checkbox"/> Yes <input type="checkbox"/> No

I claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application.

### PRIOR U. S. APPLICATION(S)

Application No.	Filing Date	Status
60/458,921	3/28/03	<input checked="" type="checkbox"/> Provisional <input type="checkbox"/> Patented <input type="checkbox"/> Pending <input type="checkbox"/> Regular

I hereby appoint Thomas J. McFarlane, Reg. No. 39,299, Marek Alboszta, Reg. No. 39,894, Katharina Wang Schuster, Reg. No. 50,000, Ron Jacobs, Reg. No. 50,142, Bertram Rowland, Reg. No. 20,015, Tianhua Gu, Reg. No. 52,480 as my agents with full power of substitution to prosecute this application and transact all business in the United States Patent and Trademark Office connected therewith. Direct all correspondence to:

**Marek Alboszta**  
2345 Yale Street, 2nd Floor  
Palo Alto, CA 94306  
tel: (650) 424-0100  
fax: (650) 424-0141

The attorney docket number for this case is: **S03-087/US**

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under Title 18, §1001 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

### INVENTOR SIGNATURE(S)

SEPANDAR D. KAMVAR

Date

TAHER H. HAVELIWALA

Date

GLEN JEH

Date

GENE GOLUB

Date



Attorney Docket No: S03-087/US

## POWER OF ATTORNEY BY ASSIGNEE

The undersigned assignee of the entire interest in the application No.10/646,331 for Letters Patent for the invention entitled:

### Improved Methods for Ranking Nodes in Large Directed Graphs

by virtue of Assignment recorded concurrently herewith hereby appoints Thomas J. McFarlane, Reg. No. 39,299, Marek Alboszta, Reg. No. 39,894, Katharina Wang Schuster, Reg. No. 50,000, Ron Jacobs, Reg. No. 50,142, Tianhua Gu, Reg. No. 52,480 as its agents to prosecute the attached application and to transact all business in the Patent and Trademark Office connected therewith, said appointment to be to the exclusion of the inventor(s) and their attorney(s) in accordance with the provisions of Rule 32 of the Patent Office Rules of Practice.

Please direct all communication relative to said application to the following correspondence address:

**Marek Alboszta**  
Lumen  
2345 Yale Street, 2<sup>nd</sup> Floor  
Palo Alto, CA 94306  
tel: (650) 424-0100  
fax: (650) 424-0141

I am duly authorized to sign this instrument on behalf of assignee corporation. I hereby declare that, to the best of my knowledge and belief, title is in the assignee herein, and I affirm review of the Assignment document concurrently submitted and believe that the attached application has been assigned to assignee herein and that assignee therefore has the right to make this Power of Attorney and Exclusion of Inventor(s).

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

ASSIGNEE:

### THE BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UNIVERSITY

Stanford University  
Office of Technology Licensing  
1705 El Camino Real  
Palo Alto, CA 94306-1106

Official Authorized to Act on Behalf of Assignee:

Signature: \_\_\_\_\_

*Katharine Ku*

Name: \_\_\_\_\_

Katharine Ku

Title: \_\_\_\_\_

Director, Office of Technology Licensing

12/5/03

Date